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10/563,370

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EXAMINER

TO, TUAN C

ART UNIT

PAPER NUMBER

3663

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/563,370 | <b>Applicant(s)</b><br>BRUSAROSCO ET AL. |  |
|                              | <b>Examiner</b><br>TUAN C. TO        | <b>Art Unit</b><br>3663                  |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 48-94 is/are pending in the application.
- 4a) Of the above claim(s) 67-94 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 48-59 and 62-66 is/are rejected.
- 7) ☒ Claim(s) 60 and 61 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicant's election of claims 48-66 in the reply filed on 08/25/2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

#### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR  
DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A  
COMPACT DISC.

(f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A

“Sequence Listing” is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required “Sequence Listing” is not submitted as an electronic document on compact disc).

The applicant's specification has no heading for each section (b-l) as guided above. Appropriate correction is required.

***Drawings***

The drawings are objected to because there is no label "figure 3" in the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an

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amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 48-59, and 62-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (US 20030058118A1) and in view of Frey et al. (US 5749984A).

As to claims 48 and 62, Wilson teaches a vehicle and vehicle tire monitoring system/method for determining the load-induced deflection or deformation of a vehicle tire based on deflection-related information such as tire load, etc.

Wilson teaches the act of acquiring a first signal comprising a first signal portion representative of a radial deformation. For example, in the abstract, Wilson teaches that the tire deflection region is detected by sensing the acceleration of the rotating tire by means of accelerometer mounted on the inner surface of the tire.

Wilson further teaches measuring an amplitude of the radial deformation in the first signal portion (see figure 5, peak to peak acceleration is representative of amplitude of the radial deformation);

Wilson further teaches that the first signal portion is representative of the radial deformation to which a first tread area portion of the tire is subjected during passage of the first tread area portion through a contact region between the tire and the rolling

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surface (see figure 2; and abstract); and deriving the load exerted on the tire from the amplitude (see abstract).

Wilson merely fails to disclose the steps of “estimating a rotation speed of the tire corresponding to the radial deformation, estimating an inflation pressure of the tire corresponding to the radial deformation, and deriving the load exerted on the tire from the rotation speed and inflation pressure.

Frey et al discloses another tire monitoring system comprising the steps of estimating a rotation speed of the tire corresponding to the radial deformation. For example, in the abstract, Frey et al. teaches that sensor electrical signals are digitized and counted to determine deflection, tire speed and number or tire revolution; estimating an inflation pressure of the tire corresponding to the radial deformation (see column 3, lines 56-65), and deriving the load exerted on the tire from the rotation speed and inflation pressure (see column 5, lines 64-67 to column 6, lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle tire monitoring system/method as taught by Wilson by substituting the teaching of the tire vehicle monitoring system/method as taught by Frey et al. in order to enhance a vehicle tire monitoring system that has capability of controlling the length of the contact area between the tread surface of the tire and the ground surface so that the tire has optimum performance.

As to claim 49, Wilson discloses the first signal comprises a radial acceleration signal (see abstract).

As to claim 50, Wilson further teaches measuring a difference between a maximum value of the first signal in the first signal portion and a minimum value of the first signal in the first signal portion (see figure 5, the peak to peak acceleration is a measurement of the maximum value of the first signal and the minimum value of the first signal in the first signal portion).

As to claims 51, 56, and 57, Wilson further discloses low-pass filtering the first signal before measuring the amplitude of the radial deformation (see figure 10, the low pass filter 108 measure the accelerometer signal before measuring peak to peak acceleration value).

As to claim 52, Wilson further discloses measuring an average value of the first signal in a second signal portion; wherein a time period associated with the second signal portion does not overlap a time period associated with the first signal portion (see figure 5).

As to claim 53, Frey et al discloses the step of determining the rotation speed of the tire comprising measuring an average value of the first signal corresponding to an entire revolution of the tire (see abstract).

As to claims 54, and 55, Wilson discloses another steps of acquiring a second signal representative of a radial acceleration to which a second tread area portion of the tyre is subjected (see figure 5).

As to claim 58 and 59, Wilson discloses the step of providing characteristic functions describing an expected radial-deformation amplitude versus rotation speed



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that correspond to predetermined conditions of load exerted on the tyre and inflation pressure (see figure 4).

As to claims 63-66, Wilson additionally discloses a brake control system, a steering control system, and suspension control system, and active roll control system (see paragraphs 0065).

### ***Allowable Subject Matter***

Claims 60, and 61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The examiner has found none of the cited prior art, neither alone nor in combination, fairly suggests the limitation as recited in claim 60.

### ***Conclusions***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan C To whose telephone number is (571) 272-6985. The examiner can normally be reached on from 8:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tuan C To/

Primary Examiner of Art Unit 3663/3600

November 4, 2008